

SCIENTIFIC AND USEFUL.

COLORS TAKEN OUT BY ACID.—Sal volatile or hartshorn will restore colors taken out by acid. It may be dropped upon any garment without doing harm.

CHIMNEY ON FIRE.—In cases of fire in a chimney, it is an excellent plan to put salt on the fire in the grate below, as it acts chemically on the flaming soot above. This has been known to extinguish the fire in a short time.

BOTTLING BEER.—As soon as the beer has and remove the vent peg, and let the beer in the cask get quite flat; have the bottles perfectly dry; cork well as soon as filled, and lay in a moderate warm place until the beer gets up, which will be in a week or so, according to temperature. It should then be moved to the cellar.

EGGS (TO PRESERVE).—Eggs will keep for months quite good if buttered while warm from the nest, and placed in a jar up right in common kitchen salt. No eggs must touch each other, and the salt must be tightly pressed between and over the eggs. When the jar is full, wax the cork or tie a thick cloth over it to exclude the air, and keep in a cool place. The salt is fit for use afterwards.

SILVERING MIRRORS.—Take as many grains of nitrate of silver as you intend to use, dissolve in distilled water, add ammonia until it clears, then add silver solution again until a little turbid; when ready for silvering add a solution of as many grains of Rochelle salts to 800 grains of nitrate of silver for a 15 in. mirror. There is nothing in this method that differs from the usual method when using Rochelle salts.

BONES AS MANURE.—It is found cheaper to dissolve or grind bones than to quarry limestone, crush it, and carry it to the land as a fertilizer; hence the enormous commerce in bones, of which we often import 100,000 tons per annum, valued at £800,000, whilst those collected at home are computed at nearly as much more. Bones of almost all animals are now imported as articles of commerce; and, whether wild or domesticated animals, all are made to yield parts of their skeletons for some useful purpose.

BREAKAGES.—The man who invented "stone china" should have a statue in his own enduring materials. Nothing short of malice prepense will break a stone china plate. The stewards of ocean steamers throw them about in a gale of wind as coolly as a landsman plays with quoits. They may chip and turn color, but they will not break. They are the Old Guard; they may be hacked in pieces, but they will not surrender. All that is needed with stone china is an exterior more inviting. With stout glass, stone china, and a stern discipline, housewives may do much to alleviate the ills of breakage.

MOTIVE POWER FOR TRAMWAYS.—There is every probability of the introduction of a motive power for tramways other than steam, and which will do away with the necessity for horses. The motive power is an arrangement of powerful springs encased in cylinders, like watch springs on a very large scale, the application of which to the existing tram cars is extremely simple and easy. These springs are to be wound up by small stationary steam engines at each terminus of the line, and when so wound will propel the cars, even with stoppages, for a longer distance than any existing tramway line extends.

NETTLES FOR CURATIVE PURPOSES.—The botanical characters of the Urtica dioica or great nettle, as given by Hooker, are: Leaves ovate, acuminate, cordate at the base, clusters much branched in pairs, mostly dioecious; waste places, under walls and hedge-banks frequent. The ancient physicians thought the expressed juice of this plant possessed astringent properties, and prescribed it in cases of losses of blood, especially in cough, with spitting of blood. There is no doubt that many cases of this nature have been cured by its use, vide Dr. Pilschaff, in England's Journal, 1821, June. The dose is 2 to 4 oz. of the expressed juice per diem. Amatus Lusitanus gave 4 oz. before breakfast during five or six days.

DOCTORS AND SEWING MACHINES.—The Sewing Machine is the greatest ameliorator of the condition of women that ever was invented. It has done more to free an entire sex from the slavery of the needle than anything else could possibly do. Yet doctors denounce it purely upon principles of medical logic, and say that it is injurious to female health. But it enables her to do in two hours the necessary work which she could not do in less than twelve hours with the needle. Unless, therefore, doctors are prepared to say that woman takes more injury from two hours at the Sewing Machine than she receives from twelve hours at the needle, their diatribes against this household blessing go for nothing.

SKETCHES BY TELEGRAPH.—A very ingenious invention was exhibited some time back by M. Dupuy de Lome at the French Academy of Sciences. It consists in a mode of sending a plan or topographical sketch by telegraph, without necessitating a special drawing for the purpose. Over the map already made is laid a semicircular plate of glass, the circumference of which is graduated. At the centre is an alidade, also graduated, which carries, on a slide, a piece of mica marked with a blade point. The latter, by its own movement along the alidade, and also by that of the alidade itself, can be brought over every point in the glass semicircle. Just before the plate is a fixed eye-piece. Looking through this, the black dot is carried successively over all the points of the plan to be reproduced and the polar co-ordinates of each

noted. The numbers thus obtained are transmitted by telegraph. The receiving device is analogous to the part described, but a simple point is substituted for the mica dot, and by it the designated positions on the glass are successively marked.

CAISSA'S CASSET.

SATURDAY, March, 14th, 1874.

All communications relating to Chess must be addressed "CHECKMATE."

TO CORRESPONDENTS.

L. S., Quebec.—You are certainly in error with regard to the solution of Problems 45-6, but your solutions of 47-8 are right.

SOLUTION TO PROBLEM No. 43.

BY H. MYER.

- White. Black. 1. Q takes P 1. Any 2. Mates acc.

SOLUTION TO PROBLEM No. 44.

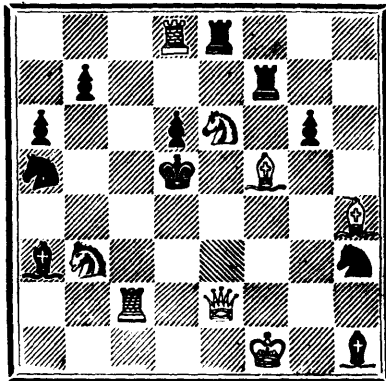
BY A. ARNELL.

- White. Black. 1. B to Kt 8th 1. B to Q 3rd. 2. Kt to R 5th 2. Moves 3. Kt mates acc.

PROBLEM No. 51.

BY CHAS. A. GILBERG.

BLACK.



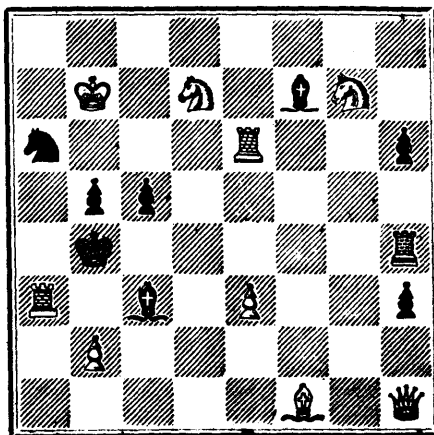
WHITE.

White to play and mate in two moves.

PROBLEM No. 52.

BY CHAS. A. GILBERG.

BLACK.



WHITE.

White to play and mate in three moves.

ON THE INVENTOR OF OUR GAME.

From the Gentlemen's Journal.

The following historical notes are translated from H. F. Massman, Geschichte-Schachspieles; Quedlingburg and Leipzig, 1839, pages 23 to 28. The Persian historian Myrkont says that during the reign of King Cosroes (Kyrus), in the year 563, the game came from India to Persia, and that the invention of the game is due to an Indian sage, whose name is given by some as Ledochladsoh, by others as Nassir, by most as Zesh, Zisa, or Sessa Ibn Dahir. This Indian had been living under the Persian King Shahram. Several Persian-Arabian writers say the game came to Persia about the year 600 from the Indian town Kanope. In India there is a saying that the game was invented by the giant Raachasa. And another that two sons of Mac and Peritachere (beauty in angels' figure) had invented it at the time of the Indian King Rama (Shah-ram-King Ram), which is calculated to have been about 400 or 1000 years before Christ. The Chinese say it was invented

200 years before Christ, and that they received it from India about the year 537 after Christ's birth. The Irish say that they played the game at the time of King Cahir-Mor (177 years after Christ).

The Indian-Persian tradition says that about the year 400 A.D., India was governed by Shahram, who was a king possessed of many excellent qualities, but misled by flatterers, and he became a proud and cruel tyrant. It was in vain that the Brahmins and counsellors tried to teach him that he was nothing without the meaneat among the people, and that his power was only to be found in their happiness. Then the Brahmin, Sissa, to teach the King the above lesson, invented the game of Chess, in which the King is powerless without the help of his self-sacrificing people, and where often the meanest Pawn (peasant) decides the game. The young King felt the impressive lessons which Sissa gave him, and promised a reward to the wise inventor. Sissa asked for as many grains of wheat as could be placed on the Chess-board. On the first of the 64 squares was to be placed one grain, on the second square two grains, on the third four, on the fourth eight, on the fifth sixteen, and so on—namely, on each of the following squares twice as many grains as on the preceding square. The king wondered at the modest request, and ordered his treasurer to give him the corn. But the reckoners and dealers came to the King, and said that all the corn of India, even of the whole earth, would not reach so far as to reward the Brahmin. The number of grains is 18 446744 073709 561615.

These nearly 184 trillions of grains would cover all the dry land of the earth a little over one-third of an inch high. If all the dry land of the earth were cultivated with wheat, then it would take more than 70 years to produce that quantity of corn (according to the mathematician, Meier Firsch).

HUMOROUS SCRAPS.

Is money good to eat when it is a stake? The oldest lunatic on record is supposed to be lame out of mind.

An old saw new set: What can't be endured must be caricatured.

SULPHUR comes from Vesuvius, therefore it is good for eruptions.

THE man who was filled with emotion hadu't room for any dinner.

WHAT portion of the body are the best travellers? The two wrists (tourists).

WHAT did the spider do when he came out of the ark? He took a fly and went home.

A SCHOOLBOY'S aspiration: I wish I were a fountain, that I might be always playing.

THE riches which are most apt to take to themselves wings and fly away are ostriches.

THERE is one fort which is too much stormed in these days of peace, and that is the piano-forte.

THE reason that Apollo was the presiding deity of falsehood was because he was the patron of lyres.

What invitation would be dangerous and disloyal to a soldier?—One asking him to dinner and dessert.

WHEN does the captain of a vessel commit self-mutilation?—When he goes on shore and leaves his hands on board.

THE man who sang "O breathe no more that simple air," went into the smoking-carriage, where it was more mixed.

A MAN'S wedding day is calldd his "bridal day." The orthography of that word is wrong—it should be written "bride" d.y.

THE difference between perseverance and obstinacy, is, that one often comes from a strong will, and the other from a strong won't.

It is a curious fact that, while beaux are permitted to go in the way they are bent, belles are expected to go in the way they are told.

It may be true that "uneasy lies the head that wears a crown," but it would be a queer head that didn't lie still more uneasily without one.

AN IRISHMAN puts this question: "Would you rather go through a giddy waltz with a pretty girl than go through a pretty waltz with a giddy girl?"

A MAN we know says that he has been married twenty years, and has never given his wife a cross word. Those who know say he doesn't dare to.

A SARCASTIC young lady says she never was so much in love with man that two rainy days together in a country house would not effectually cure her.

A YOUNG gentleman asks, "What is the best method of popping the question?" It is a good deal like champagne—if it don't pop itself there is something wrong about it.

A NEW style of boys' trousers has been invented in Boston with copper seat, sheet-iron knees, riveted down the seams and water-proof pockets to hold broken eggs.

A mantua maker imprudently announces that she makes her dresses fireproof, not realizing that her customers wish toilettes to attract rather than to repel their flames.

NEVER chew your words. Open the mouth, and let your voice come out. A student once asked, "Can virobue, fortichude, or quichude dwell with that man who is a stranger to rectichude?"

A SPORTING gentleman observed on the door of a house the separate names of a physician and surgeon, and facetiously remarked that the circumstance put him in mind of a double-barrelled gun; for if one missed, the other was sure to kill.

A BOY in Vermont, on hearing that the temperance people in Boston were in such a strait to get rid of their cider, that they were paying loaders seventy-five cents per barrel for drinking it, said if his father was down there he could easily make three or four dollars a day.

"YOUR future husband seems very exacting; he has been stipulating for all sorts of things," said a mother to her daughter, who was on the point of being married. "Never mind, mamma," said the affectionate girl, who was already

dressed for the wedding. "These are his last wishes."

AN outside passenger by a coach had his hat blown over a bridge, and carried away by the stream.

"Is it not very singular," said he to a gentleman who was seated beside him, "that my hat took that direction?"

"Not at all," replied the latter; "it is natural that a beaver should take to the water."

SHERIDAN was much annoyed in the House of Commons by a member who kept constantly crying, "Hear! hear!" The witty orator described a fellow who wanted to play rogue, but only had sense enough to play fool, and exclaimed with great emphasis. "Where shall we find a more foolish knave or a more knavish fool than he?"

"Hear! hear!" shouted the troublesome member. Sheridan turned round, and thanking him for the prompt information, sat down amidst a general roar of laughter.

THE SELLER SOLD.—An incident recently occurred in a town on the Connecticut River, which illustrates the danger of practical joking, and served, at the time, its purpose of fun and rally. A certain barber calling at a store, a clerk who wished to play the barber a trick, offered him a bottle of bear's oil. The latter did not want it, but being pressed, took it and paid for it. On his opening it in his shop, the oil was found to be lamp-oil, with a very rank smell. Nothing was said of the trick which the clerk had played, and the barber shaved away as usual, until the matter had been forgotten.

OUR PUZZLER.

73. NOVELS AND THEIR AUTHORS.

1. Gain heart—Nemo lame; 2. Send extra tin cans, E—Tiny new seal; 3. Tall crab hat on—Wish to warm H; 4. Dig tin at sea—Arm, sir, or I'm—; 5. Do sell this real drug—Beer, MacM; 6. Want stews, try—N went eastly; 7. He views Ham Hill—Ay, grant us ham; 8. O, Y shun me?—She rolls cash.

74. CHARADES.

I.

On a warm summer's day we arrived at the farm, Where my next at the door smiling stood With a jug of my first; it could do us no harm, For my whole understood it was good.

II.

Active and intelligent my whole is often found— If over zealous, sometimes puts my next upon the ground; But for my first we'd not complain, we could not do without them, Our wisest course is but to trust, our best plan's not to doubt them.

75. CRYPTOGRAPH.

XSLMLMSLGLMMSGLSLTLH.

"Tl xzoo z xlzxs, zm w oog z xlzxs yv xzoo'w, Zmw oog gsv nzm dsl xzooovs yv gsv xzoo'v; Zm w rim srh xzoo'rat oog srh mgs'rat xzoo, Yfg xlzxs, xlzxs, xlzxs! L ull z xlzxs!"

76. CHARADE.

My last and whole may oft be seen In the calm, clear nights of June, When the sky is bright and cloudless, And sweetly shines the moon; Then my first you'll hear, with mournful voice, Singing sadly out of tune.

77. ENIGMA.

The careful farmer, could he have his will, Every individual of my race would kill; But others (and in this they show good sense) Make me 'gainst waves and bullets, their defence; And, what seems strange, I'm off in close connexion With ladies of the loveliest complexion; The old and wrinkled, too, I put to use— Now tell my name, if you are riddle-wise.

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